

# What is Lidar scanning?

**LiDAR** stands for *Light Detection and Ranging*.

- It works by shooting out tiny pulses of infrared light (lasers).
- Each pulse bounces back when it hits a surface.
- The device measures the time it takes to return → this gives the **distance** to that surface.
- Millions of these measurements build up a **point cloud** = a digital 3D map of the environment or object.

**LiDAR captures the shape of real objects in 3D, with depth and scale**, not just flat photos.

Artists use LiDAR scanning to:

- Capture **sculptures, costumes, installations, or landscapes** as precise 3D models.
- Create **digital doubles** of their work for archiving or documentation.
- Remix physical works in **VR/AR, projection mapping**, or dataflow software like **TouchDesigner**.
- Use scans as a **starting point for fabrication** (3D printing, CNC, etc.).

It's not about photorealistic color but about **geometry**—a solid spatial “skeleton” you can texture, render, or transform artistically.

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